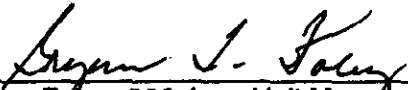


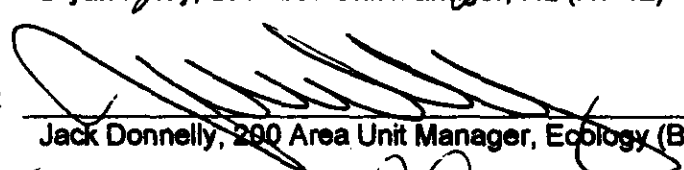
Meeting Minutes Transmittal/Approval  
Unit Managers' Meeting  
200 Area Groundwater and Source Operable Units  
3350 George Washington Way, Richland, Washington  
June 1999

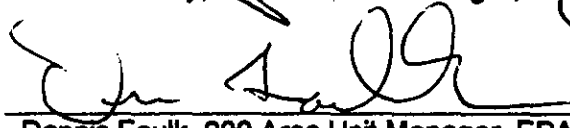
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APPROVAL:  Date 01/21/00  
Bryan Foley, 200 Area Unit Manager, RL (H0-12)

APPROVAL:  Date             
Jack Donnelly, 200 Area Unit Manager, Ecology (B5-18)

APPROVAL:  Date 7-28-00  
Dennis Faulk, 200 Area Unit Manager, EPA (B5-01)

APPROVAL: N/A Date             
Arlene Tortoso, Groundwater Unit Manager, RL (H0-12)

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Meeting minutes are attached. Minutes are comprised of the following:

|              |   |   |
|--------------|---|---|
| Attachment 1 | - | Agenda  |
| Attachment 2 | - | Attendance Record   |
| Attachment 3 | - | 300 Area UMM Minutes - June 1999                                    |
| Attachment 4 | - | Status Brief on Monitoring Activities Related to the 216-A-29 Ditch |

Prepared by:

  
Amy J. Jones (H0-10)/Chloe Brewster

Date

2/16/00

Concurrence by:

  
for Michael Graham, BHI Groundwater/Vadose Zone Integration (H0-09)

Date

4/19/00

# **UNIT MANAGERS' MEETING AGENDA**

078809

3350 George Washington Way, Room 2A01

June 17, 1999

**10:00 a. m.. 200 Area**

- **Overview 200 Area RCRA Groundwater Monitoring**
- **200 Area RI/FS Implementation Plan**
- **200-CW-1 Gable Mountain/B Pond and Ditches**
- **200-CS-1 Chemical Sewer Waste Group**
- **DWP Planning and Scope of Work for FY2000**
- **200-BP-1 Operable Unit**

**PRINTED NAME**

### O.U. ROLE

**TELEPHONE**[illegible]

**MEETING MINUTES**  
**200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS**  
**UNIT MANAGERS' MEETING**  
**June 17, 1999**

**Attendees:** See Attachment #2

**Agenda:** See Attachment #1

**Topics of Discussion:**

1. Overview 200 Area RCRA Groundwater Monitoring – A status brief on monitoring activities related to the 216-A-29 Ditch was provided (Attachment #4). The information in the handout was summarized in a brief presentation. Ecology suggested that the OU work plans be used to document the current RCRA TSD groundwater monitoring program and path forward. Work Plan schedules drive the process to reaching a final status for groundwater monitoring. Ecology requested that the next Unit Manager's Meeting agenda include a discussion on groundwater closure strategy and the process for changing groundwater monitoring plans.
2. 200 Area RI/FS Implementation Plan – RL inquired about the status of an approval letter for the 200 Area RI/FS Implementation Plan. Ecology replied that the letter has been signed and will be transmitted to RL shortly.
3. 200-CW-1 Gable Mountain/B Pond and Ditches – RL has received Ecology's comments on the Work Plan for 200-CW-1. RL requested a comment resolution session with Ecology. The meeting was set tentatively for June 22, 1999. The Public Review Schedule for the Work Plan is currently targeted to begin after July 6, 1999.
4. 200-CS-1 Chemical Sewer Waste Group
  - Status DQO Summary Report and Work Plan - The DQO Summary Report and Work Plan for 200-CS-1 is being revised. It was discussed that one additional sample location at the historical high table elevation will be added to the scope. The report will be redlined and submitted to Ecology. Ecology can expect to receive the report within a week.
  - Integration of Planned 200-CS-1 Vadose Boreholes and RCRA Groundwater Monitor Well Installation at S Pond – RL inquired into Ecology's willingness to make schedule adjustments to accommodate the integration of 200-CS-1 borehole characterization needs and RCRA well installation needs at S-Pond. RL noted that integration would be more efficient than drilling the borehole and the well separately, saving both money and labor. Discussed collecting deep 200-CS-1 samples via the RCRA groundwater well located outside the waste site and replace the 200-CS-1 vadose borehole inside the waste site with a test pit to collect shallow samples. Ecology agreed but prefers not to extend the relevant RCRA well installation milestone, which extends to February 2000. RL will attempt to perform the integration within the current schedule.

5. DWP Planning and Scope of Work for FY2000 – RL requested a meeting with Ecology and EPA to discuss the DWP and Scope of Work for FY2000. The meeting was tentatively set for June 29, 1999.
6. 200-BP-1 Operable Unit – The Treatability Test Report is currently being sent through RL and should be expected at Ecology soon.

## **Status brief on monitoring activities related to the 216-A-29 Ditch**

### **Operational Characteristics**

Operated from 1955 to 1991

Received waste from PUREX via the chemical sewer line (CSL)

Approximately 1100 m long and 1-5 m in depth

Source stream to the 216-B-3 Pond System with the head end approximately 300 m east of the perimeter fence near PUREX, and discharge end at the 216-B-3-3 Ditch

Interim stabilization occurred in the fall of 1991

### **Waste Stream (Table 1 - Sources; Table 2 - Known Hazardous Discharges)**

Flow rates from the CSL varied from approximately 400 to 5000 L/min with an average flow of ~2000 L/min

Liquid effluent contained hazardous waste from spills, intentional chemical disposal, and routine discharges from a demineralizer regeneration system

Daily hazardous waste discharges continued until February 1986

Liquid effluent also contained non-hazardous condensate, cooling water, and steam quench water

Largest hazardous components (volumetric) discharged were sodium hydroxide and sulfuric acid

Administrative and physical controls implemented in 1984 to avoid hazardous discharges

### **Hydrogeology**

Principal sediment types are sand and sandy-gravel units of the Hanford formation

Vadose is dominantly coarse-grained at the head end, finer at the discharge

Groundwater flows ~235° at 0.03-0.09 m/d

Conceptual model indicates that significant infiltration occurs primarily in the area nearest the head end

Highest contaminant transport is likely to be in the head end area

## **Monitoring Program**

Began indicator parameter sampling in late 1989

Monitoring suspended from June 1990 to early 1991 because of analytical contract difficulties

Statistical evaluation in 1990 confirmed specific conductivity exceedance

Groundwater assessment began in 1990 and assessment report was issued in 1995

Assessment report identified elevated sulfate, sodium, and calcium as the cause of specific conductivity exceedance

Site reverted back to detection monitoring in 1995 and continues to present

Monitoring include semiannual sampling for indicator parameters, and annual sampling for tritium, alkalinity, anions, and ICP metals

Monitoring network includes 10 wells, two upgradient near B Pond and 8 downgradient along the length of the facility

## **Results**

No further exceedances have been reported since 1995

Update to the groundwater monitoring plan will include current PNNL sampling and QC practices



Table 1. PUREX Chemical Sewer Line Sources.<sup>(a)</sup>

| Waste stream  | Source  |
|---|---|
| Floor, funnel, shower, sink, and drinking fountain drain <sup>(b)</sup> | Aqueous makeup area, battery room, 216-A-211 Building (A-211), process blower room, various service rooms (compressor room, etc.) |
| Steam condensate  | TK-618-1 flash tank, acid fractionator, R-cell evaporative cooling tower, various Service rooms                                   |
| Tank overflow and drain effluent  | Pipe and operating gallery, aqueous makeup area, A-211 tank farm, <sup>(c)</sup> TK-120, -21, -30, -50, and -618-2 tanks          |
| Demineralizer recharge <sup>(d)</sup>                                   | A-211 Building  |
| Electric water cooler effluent  | Process blower room, two other service rooms  |
| Welding quench tank drain effluent                                      | Instrument and maintenance shops  |
| Sanitary water  | R-cell evaporative cooling tower spray wash   |
| Pipe shaft sump/pipe trench effluent                                    | Aqueous makeup area, A-211 Building   |
| Cooling water   | Acid fractionator   |

(a) From DOE 1987.

(b) Flow drains in the pipe and operating gallery are routed to the chemical sewer for short periods during safety shower checks and floor washes.

(c) Secondary containment diking has been installed around tanks in the A-211 tank farm to minimize overflow discharge into the PUREX CSL.

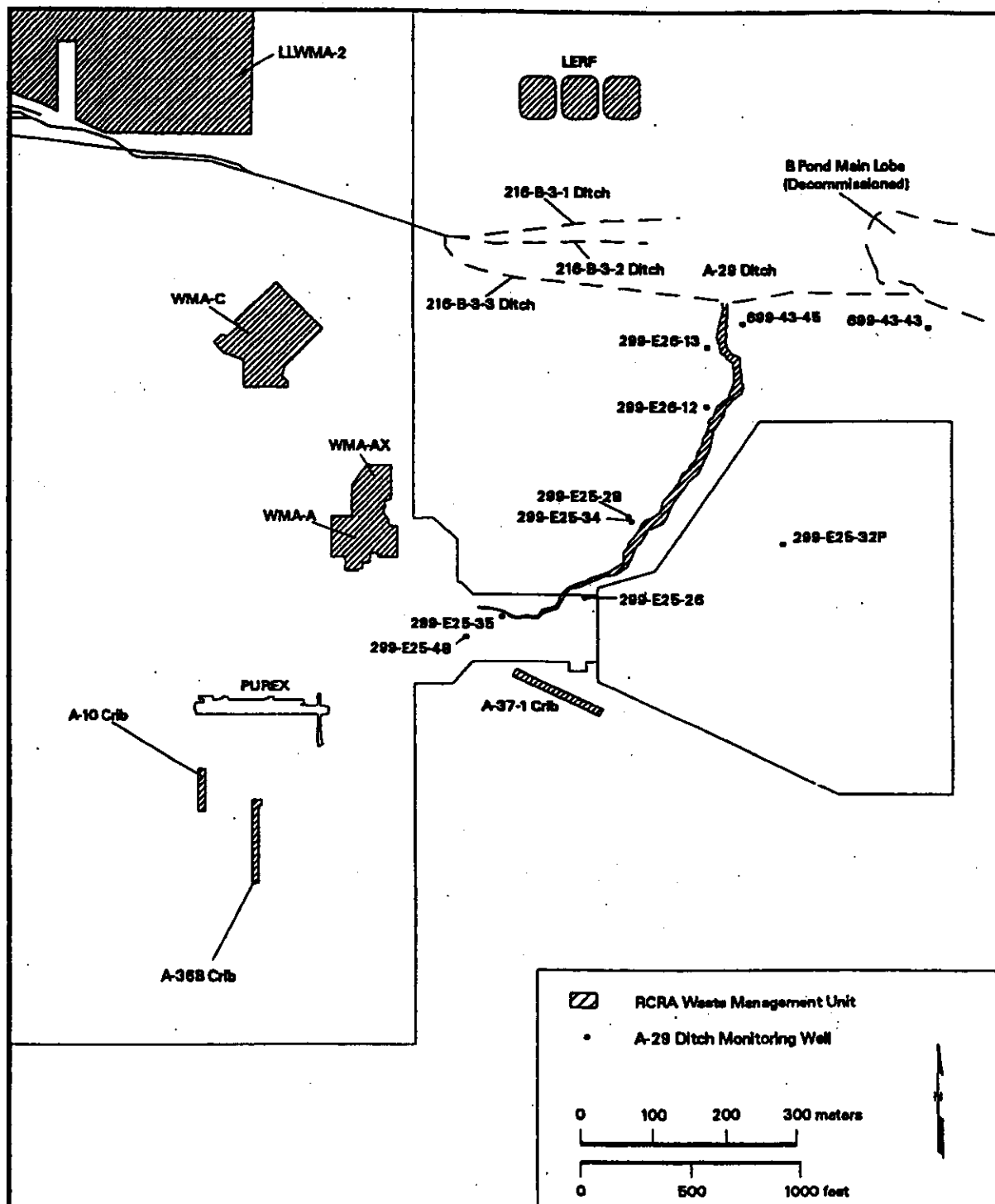
(d) Effluents from the anion and cation units are co-neutralized before discharge.

Table 2. Known Hazardous Discharges to 216-A-29 Ditch.

| Waste Constituents   | Date   | Description  |
|--|--|--|
| Demineralizer regenerant   | 1955 to February 1986  | Characteristic (corrosive)                             |
| Aqueous makeup tank heels and off-specification batches                                | 1955 to October 1984   | Characteristic (corrosive and EP <sup>(a)</sup> toxic) |
| N-Cell prestart testing (oxalic acid, nitric acid, hydrogen peroxide, calcium nitrate) | April 11, 1983 to August 7, 1983   | Characteristic (corrosive)                             |
| Potassium permanganate, sodium carbonate solution                                      | October 19, 1983   | CERCLA-reportable release <sup>(b)</sup>               |
| Hydrazine HN solution  | June 6, 1984<br>September 13, 1984<br>to October 2, 1984                                 | CERCLA-reportable release                              |
| Potassium hydroxide  | December 2, 1984   | CERCLA-reportable release                              |
| Nitric acid  | August 22, 1984<br>January 18, 1985<br>May 27, 1985<br>June 25, 1985<br>October 28, 1985 | CERCLA-reportable release                              |
| Sodium hydroxide   | February 26, 1984<br>November 19, 1984<br>August 6, 1985                                 | CERCLA-reportable release                              |
| Cadmium nitrate  | May 16, 1984<br>December 18, 1985  | CERCLA-reportable release                              |
| Hydrazine  | July 9, 1986   | CERCLA-reportable release                              |

<sup>(a)</sup> Extraction procedure.

<sup>(b)</sup> Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).



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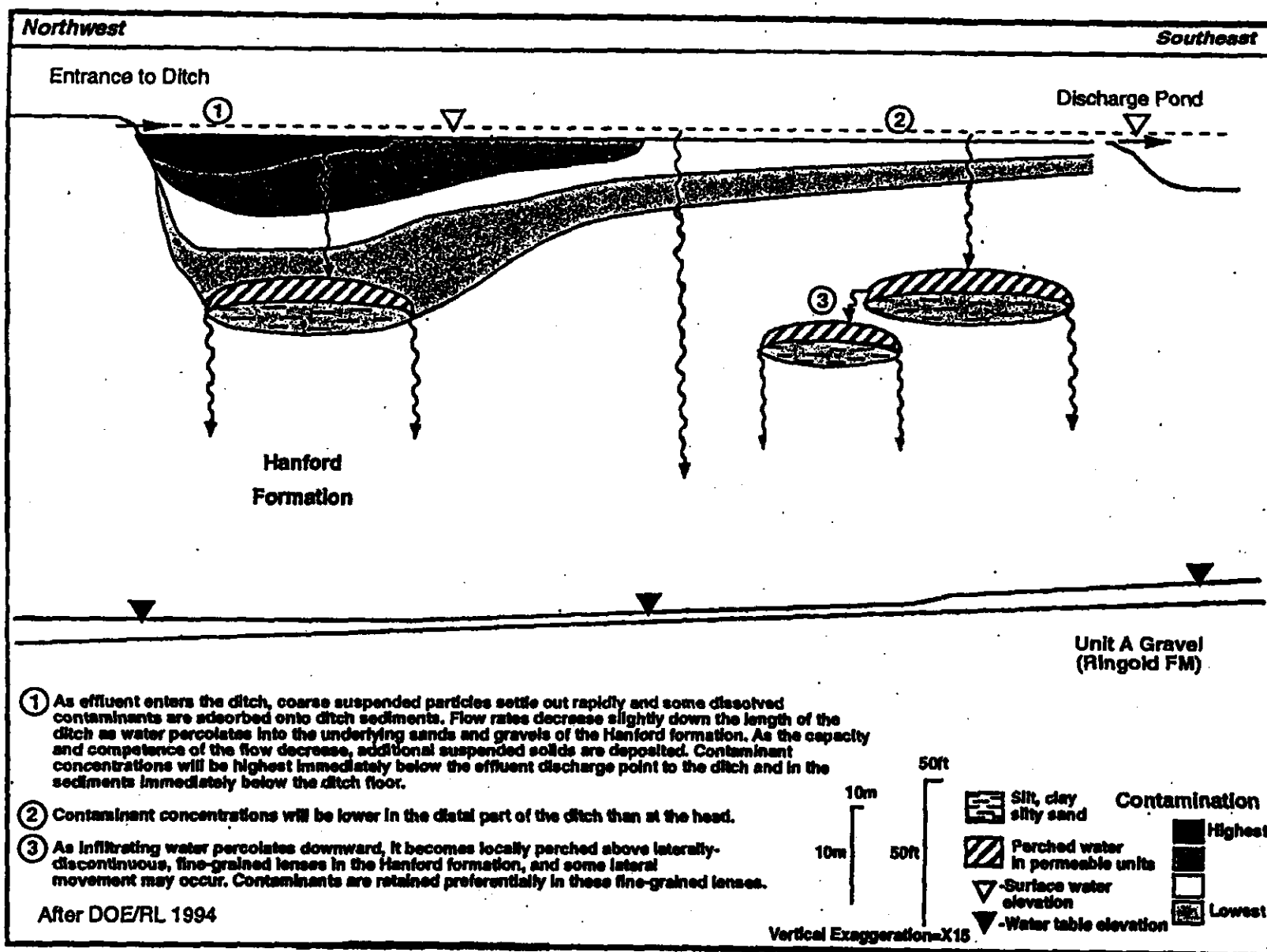
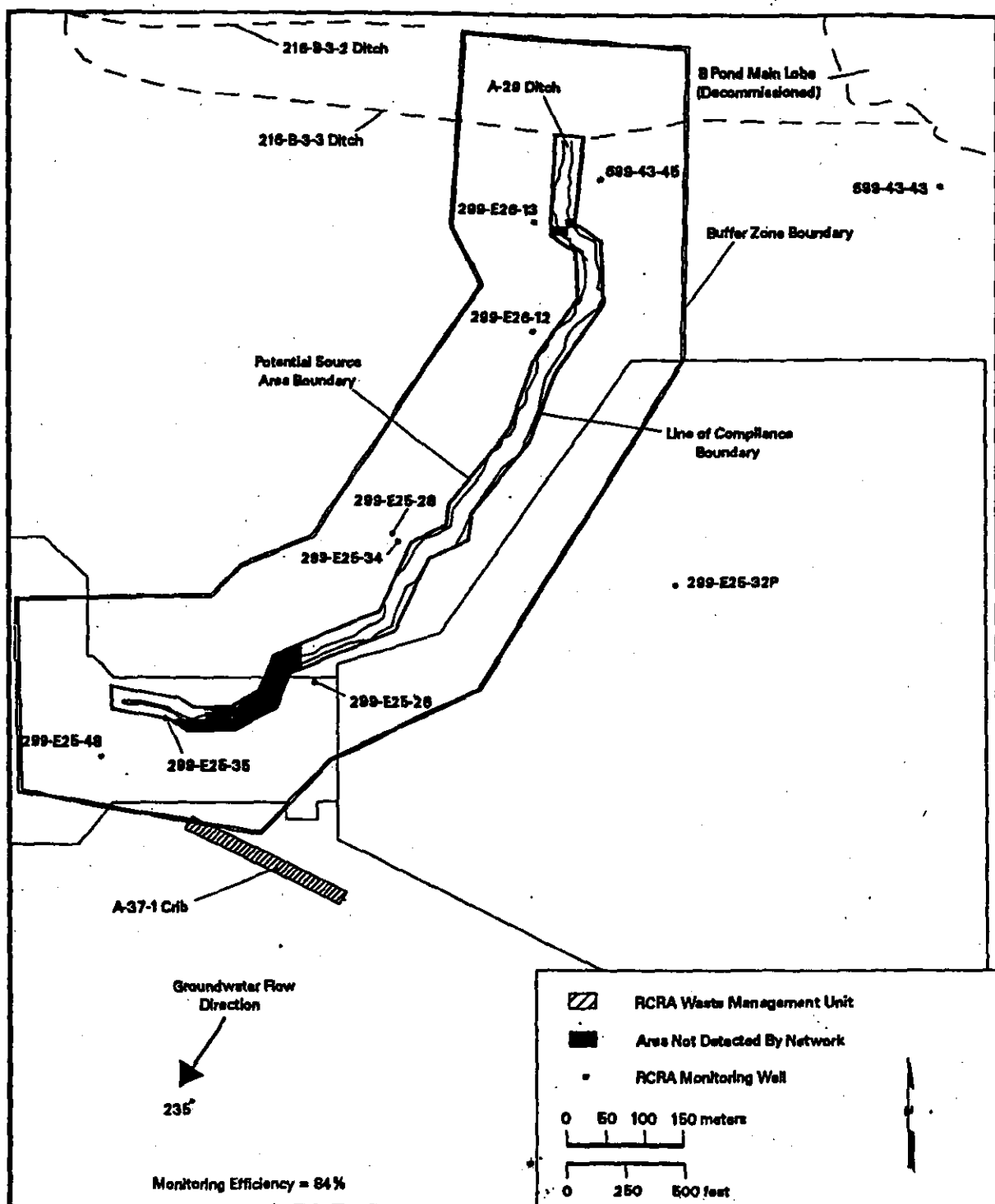
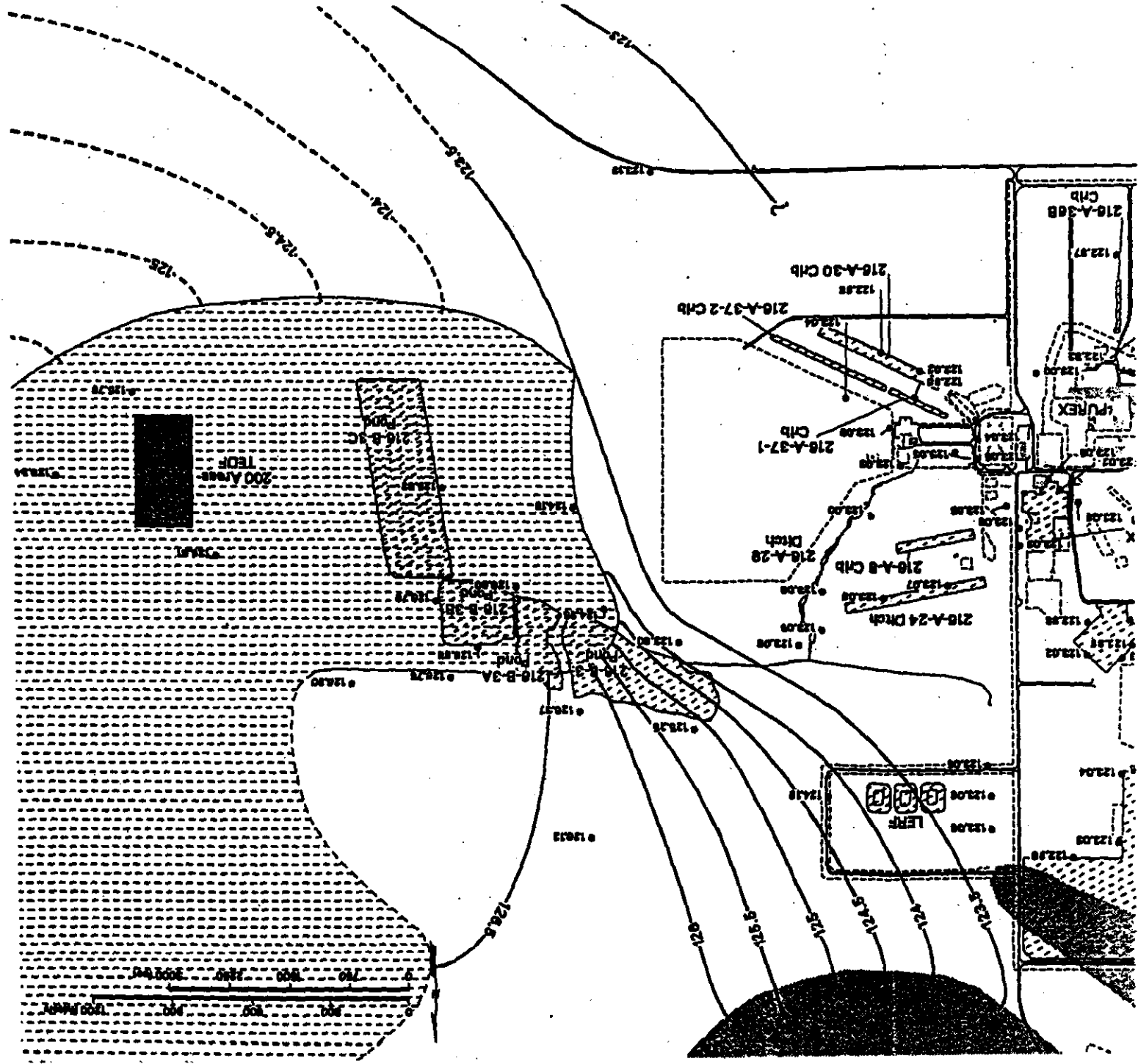


Figure 5.1. Conceptual Model of Effluent Infiltration Within a Ditch/Pond System (after DOE-RL 1994)

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UNIT MANAGERS' MEETING  
200 AREA GROUNDWATER AND SOURCE OPERABLE UNITS**

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